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H. HURLBUT, EDITOR.

[For Terms see last page.]

For the Michigan Farmer.

Remarks on the Diseases of Fruit Trees.

The diseases to which fruit trees are liable, will continue to be made a subject of inquiry and investigation, till the causes are developed and effectual remedies ascertained. Theories we have, some of which, seem to be well sustained by facts; others there are, that rest more upon assumption than evidence. The opinions of men of science, whose opportunities for observation and investigation have been favorable, certainly demand a respectful consideration; still true science rests upon a surer basis than the mere opinions of men. The plum, as many of your readers know, and perhaps from sad experience too, is subject to two evils, one of which destroys the tree, and the other, the fruit. With regard to the origin of the former, there has been some diversity of opinion; but it is now, I believe, pretty generally conceded to be the work of an insect, although there is still some doubt respecting the insect itself. Some believe it to be identical with the curculio, which destroys the fruit; of this, others doubt. The disease is sometimes discovered upon the bodies of young trees, but is more generally found upon the limbs of trees of larger growth. It seems to commence at the wood, extending but little below the surface; its principal development is outward: one side of the limb becomes swollen, the bark bursts, and finally when the disease is fully developed, a black lump, spongy and dry, is presented to the eye. The only facts that I have seen adduced, in support of the opinion that the curculio is the originating cause of this disease, is, that the larvæ of the curculio have been found in the knots, and that the curculio have been seen stinging the limbs of the plum. In reply to the former I

would remark, that on opening these knots I have not unfrequently found them filled with what I have no doubt were the eggs of an insect; these were however totally unlike the grub found in the plum, being black and hard; while the latter, though at first quite minute, is nevertheless a perfect grub, differing from the former in shape and color. Did the beetle or curculio deposite these grubs in the knots? There is no evidence to my mind that they did, but, on the contrary, evidence to believe that they did not, but that they found a lodgement there by accident. I have examined hundreds of these knots, but have never found a grub, and besides, so far as we know, the plum alone constitutes the principal, if not the only aliment of the curculio in its larvæ state, upon which it feeds till it arrives to maturity, when it makes its egress and burrows in the ground. The wild plum, which is found in such abundance upon the borders of our streams and upon our low grounds, are much diseased; but the fruit is seldom, if ever, attacked by the curculio. I have in my yard some forty plum trees, embracing some sixteen varieties, the fruit of which invariably suffers, more or less, every year from the attacks of the curculio; and yet I have never discovered but two trees that were diseased, and these two but slightly.*

Now if the disease is produced by the curculio, would not the fruit in the former case have been subject to their attacks? And in the latter case, would not more of my trees have been affected, when the curculio were found in such abundance? Such would seem to have been the fact, if they are the real generators of the disease. Respecting the eggs of which I have spoken, I will only

* Mr. Downing in his work on fruits says, that he has never known the green and yellow fruited varieties affected, until the other sorts (the purple fruited) are filled with the knots. It is exactly the reverse of this with us in this vicinity. There is no variety that is so much affected as the yellow gage, and in a district not many miles distant from me, scarcely a tree of this variety has escaped. One instance now occurs to my mind of a row of trees embracing the yellow gage and black plum in which every tree of the former were diseased, but not a one of the latter was affected.

remark, that, till recently, I have supposed them to contain the embryo of the insects that produced the disease; but recent examinations have led me to a different conclusion. These knots have only been made a receptacle for their eggs. In no case, as I recollect, have I found them, except in those tumors that were old and in a partial state of decay—full of interstices affording a place of security for them. If these tumors were produced by the insect for the purpose of propagating their species, should we not naturally expect to find them in those that were fresh, and even before the coats of the bark were broken by the force of the disease? Although I have often examined these with the expectation of finding them, in no instance have I succeeded; nor have I found the least indication, in the limbs affected, of their having been perforated by an insect; and I have come to the conclusion, that whatever may be the cause of the disease, it is not produced by an insect. What then is the cause? In examining the tissue of these tumors, it appears unlike the tree itself. If they are formed as is supposed by the sap itself, (by its natural current being obstructed,) we should expect to find them like the concretions of sap, found at the point of incision in layers, and at the bottom of cuttings. These form wood, which, in process of time, becomes solid and hard like the tree itself. Now if any one will take the pains to examine these tumors when fresh, that is, before the bark has burst, they will find them soft and spongy. If cut horizontally with a sharp knife, they will find alternate layers of woolly fibre, and what appears to the naked eye, a substance, having some slight resemblance to the pith of plants. These walls of woolly fibre, when cut into vertically, appear to be composed of thin layers which are easily separated with a knife. The tumors, however old or dry, never become solid like wood, but are soft and corky. Are these tumors caused by the disease, or are they the originating cause of it? I am inclined to the latter opinion, and that they will be found to possess organs distinct and separate from the tree itself, and that they form no part of it, but are perfect plants, drawing their nourishment and support from the tree or limb upon which they have planted themselves, absorbing that nutriment which is necessary to preserve the tree in health, and appropriating it to their own use; and when these plants or fungi become numerous, the tree dies from exhaustion. The fungi constitute one of the lowest order of plants, and till recently but little comparatively was known of their physiology or forms of existence; but with the aid of the microscope, discoveries have been made respecting their existence, that have satisfactorily explained the cause of many things about which there has been, from time immemorial, much speculation. For instance, the mildew, mould, rust, smut in wheat and corn, &c., are found to be living plants. They are found growing upon animals as well as plants, a singular instance of which is found in the West Indies. There is a species of wasp found there, of which individuals are often seen, flying through the air with plants of their own length projecting from some part of their surface, and taking root as it were, in their substance, so as to develop a luxuriant vegetation, which eventually

destroys the life of the insect. The disease called the muscadine which sometimes attacks the silk-worm, has been ascertained to be due to the growth of a minute vegetable of the fungus tribe. In many if not in most instances, "the fungi derive their nutriment from organic matter, which is already in a state of decay, or will readily decompose." All the energies of these plants seem devoted to the production of the germs of new ones. The dust of the common puff-ball for instance, consists entirely of these germs, and ten millions of them have been counted in a single fungus. These minute germs of various species of the fungi float through the air, ready to develop themselves whenever they light upon a soil suitable to receive them. In view of the above facts, the suggestions that have been made respecting the character of the excrescences found upon the plum, will not appear altogether strange or incongruous with the habits of this class of plants, and should they lead to a more thorough investigation than I have been able to give to the subject, for the want of proper facilities for a close examination, may we not hope that the true cause of the disease will ere long be fully demonstrated. A—.

For the Michigan Farmer.

Manure rotted, or unrotted.

H. RUALBUT:—

I do not feel disposed to enter into a controversy with any one in relation to the application of manure thoroughly rotted being best under all or any circumstances. I am aware there is high authority for a contrary opinion. I have read some of Leibig's Agricultural Chemistry, the Albany Cultivator, and Genesee Farmer, in each of which the doctrine is strenuously advocated that manure fresh, unfermented and unrotted is far preferable. The Michigan Farmer also follows up the same sentiment. It will be considered by some no doubt rather late in the day, if not down-right presumption, for an obscure individual with not half the education our common schools afford, to contradict that theory. I call it *theory* because I am satisfied the opinion is founded more in theory than in practice. At all events, I have yet to find the first *practical farmer* whose views do not correspond with my own, relative to thoroughly rotted manure being far preferable for immediate benefit or subsequent advantage. I will, however, here state that my prejudices heretofore have been in favor of the *scientific theory*, but think the school of experience has taught me my error, and 'tis said fools will not learn in any other. Nevertheless, to encourage the practice of neatness and cleanliness, which may be called a virtue, and to render our dwellings and firesides more healthful, I would recommend the haying out everything like manure early in the spring, and applying to hoed crops, for reasons other than those usually urged. Now, is the beginning and ending of this article "antipodes?" Does it play over the game of the Kilkenny cats, by eating each other up? (a)

Relative to failure No. 2., I perceive I was not understood. I supposed the phrase, "apple pie order," would be understood by any one to mean

the best possible time, and in the best possible condition, as I know it was. My failing last season to raise good spring wheat, I attribute to the season. Our openings I think are not adapted to its growth, and so far as I can learn, those that have practiced it are doomed to nearly a total failure three times out of four.

Now concerning failure No. 4. That I have seen salt recommended, not only for plum trees, but for *fruit trees*, I am quite confident. I am willing, however, to exonerate the Michigan Farmer of that murder, and will here "acknowledge the corn." (b) ANDREW ROBISON.

Sharon, Washtenaw Co., Feb. 1, 1847.

(a) Our correspondent has "defined his position" quite clearly. We are entirely of the opinion that fine manure, made such in a manner to save its virtues, is more certainly and immediately beneficial to the succeeding crop than coarse, the effect of which is liable to be varied by the character of the season and other circumstances. What we wished to guard against more particularly in our former remarks was the possible inference that the remains of manure which has lain scattered about a barnyard, exposed to an alternate leaching and drying process, would yet retain all its fertilizing properties, and be better than fresh manure. Compost manures are acknowledged on all hands to be better than any others, and these are suffered to pass through the most active stages of decomposition and become fine, before they are applied. But much care and skill are exercised in their management to prevent the waste of any thing valuable. Many of the best eastern farmers are now resorting to the compost plan.

(b) In Vol. II, of the Farmer, p. 133, is an article copied from the Boston Cultivator, mentioning favorably the use of salt for most fruit trees, in which the editor says he has known peach trees on land overflowed with water at very high tides to do well. This article had escaped our notice.

For the Michigan Farmer.

The Fruit Trade.

I have just received a letter from a friend in Oneida Co., N. Y., in which he states that the apple trade there, is beginning to be a pretty heavy business; for the last three years men have come on from Boston, New-York, Philadelphia and Baltimore, who have purchased from 5,000 to 13,000 barrels a year. This is quite an item in farming. From another source I learn that one gentleman sold 800 barrels of apples and 200 barrels of pears from a single orchard in 1845. Much of this fruit is undoubtedly purchased for home consumption, but some without doubt found a foreign market, which is beginning to open a wide avenue to a brisk trade in which may we not hope that Michigan will ere long participate.

A—

New Pears.

The Horticulturist for January describes two new pears, which promise to be quite an acquisition to the pomologist. They are named the Onondaga pear, and the Oswego Beurre. The Editor says, "One and probably both of these pears, are American fruits, and they possess a vigor, hardiness and productiveness, characteristic of varieties originated on our own soil; and which, joined to their truly excellent flavor, will undoubtedly render them great favorites in every part of our country." The following are the descriptions:

THE ONONDAGA PEAR. *Onondaga seedling, and Swan's Orange, of some Western New York gardens.*

A fruit of the first size and quality, in all respects; supposed to be an American variety. It takes its name from having been introduced to notice by cultivators in Onondaga county, where it is still chiefly known, though it was first brought there from Farmington, Connecticut, by HENRY CASE, Esq. As a productive and vigorous tree, and a large and most excellent fruit, it has probably not one superior as an October pear.

Tree very vigorous, with strong upright olive-colored shoots. Fruit large, having externally a good deal of general resemblance to the Bartlett. Form obovate, swollen in the middle, and tapering a good deal towards the eye, as well as the stalk. Skin fair, smooth, pale yellow at first—golden yellow at full maturity—sprinkled with numerous grey-russet dots, and tinted with a faint wash of reddish-orange on the sunny side. The surface of the skin is slightly uneven, like that of the Bartlett. Stalk rather short, slightly bent, from one to one and a half inches long, inserted with little or no depression, but with the lip of the fruit folded unevenly round it. Calyx quite small, closed, set in a narrow basin of moderate depth. This basin is usually marked with a patch of light cinnamon russet. Flesh white, fine-grained, very buttery, abounding with juice; flavor rich, aromatic, and very excellent, uniting the consistency of Bartlett and the flavor of the finest Beurre Diel. Core very small, nearly solid; seeds small and often imperfect. The fruit keeps well, and never decays at the core. Season, October and part of November.

THE OSWEGO BEURRE. *Reed's seedling.*

A new native pear of excellent qualities, raised from a seed of the White Doyenne, by Mr. WALTER REED, of Oswego, N. Y. It combines, in a great degree, the finer qualities of the White Doyenne and the Brown Beurre; is a remarkably hardy, thrifty sort, an early and abundant bearer, and will undoubtedly soon become a very popular variety.

Fruit of medium size, form oval-obovate, regular. Skin smooth, yellowish-green, streaked and mottled with thin russet. Stalk short and stout, set in a bold and rather deep cavity. Calyx much like that of the White Doyenne: small, closed, set in a smooth regular basin, which is only moderately depressed. The flesh is in consistency and taste between that of the Brown

Beurre and White Doyenne, buttery, melting, juicy, with a brisk, rich, slightly sub-acid and excellent flavor. Core small. Seeds few. It ripens at the same time as the White Doyenne, and keeps well. From its early and abundant bearing, and its gradual maturity, it is admirably calculated for a market fruit.

Cultivation of Wheat.

Is there not some great defect in our general mode of wheat culture? In the early settlement of the country, when the soil was first brought into cultivation, wheat was readily produced in almost every section; but the production of this grain soon began to decline, and with the progress of population westward, it may be said that the wheat region has been constantly receding in that direction. This circumstance would, long ago, have excited alarm, but for the vast extent of territory in our possession still unoccupied. The question, however, may even now excite some anxiety—Whence are the future inhabitants of our country to derive their bread, when there shall no longer remain *new land* to cultivate?

Our soil, in regard to the production of wheat, presents quite a contrast, in some respects, to that of some of the countries of Europe. There, soils which now yield bountiful harvests, have borne the same crop, at various intervals, for a thousand years or more. In our oldest districts, where cultivation was only commenced a little more than two hundred years since, the culture of wheat is mostly discontinued, and where carried on at all, yields in general but poor returns.

In view of these facts, it appears to us that we may derive some useful hints from attention to the best modes of European wheat-husbandry. In the best systems which prevail in England, for instance, there are at least two points which we think might be very advantageously adopted in this country. We mean the more perfect preparation of the soil, and the special adaptation of manures to the production of wheat.

We have been led to these remarks by the perusal of an excellent essay on the cultivation of wheat, in a late number of the *Farmers' Magazine*. In relation to the requisites for the growth of wheat, the writer observes that the plant is not one easy to cultivate, "for though it thrives in a stiff soil, it may be too hard; though it will grow in a loose sand, if properly attended to, it is easily thrown out; though it thrives in a hot summer, it may be burnt up for want of moisture; and though wet is injurious to it, it still requires, at certain seasons, considerable moisture. Indeed, it may be said to require a medium of soil, condition, and climate, to be brought to full perfection. If the soil be too poor, it is short and sickly; if it be too rich, it lodges or mil-

dews; and no plant requires the watchful eye of the cultivator more carefully or more assiduously."

He speaks of the improvements in cultivation which have been adopted in England within a few years, and observes it was formerly thought that wheat could only be grown on strong retentive soils, but that it is now successfully cultivated on nearly all light soils as well as on strong. He says the "four-course," or alternating system of farming, "established the fact, that while the clover root was a better bed for wheat than a fallow, the sheep's treading and droppings were a much better dressing than lime or barn-yard manure; and that blowing sand could, in eight or even four years, be adapted to the production of as many bushels of wheat to the acre as the naked, open, laborious fallow, and with this difference, that on the latter there were the accumulation of two years' rent, tithes, taxes, and labor; on the former there was a stock of sheep to sell, and no labor beyond the plowing and sowing.

In this country, so far as our observation goes, no better preparation can be had for a wheat crop, than a clover-ley depastured by sheep. The action of clover on sandy soils, is to render them more compact. In the language of this writer, "such is the consolidating power of the trifolia, that the very lightest soils will sometimes become so hard as [when very dry] to defy the power even of a Ransom's or a Howard's plow to penetrate."

He cites the analysis of Sprengel, by which it appears that the principal ingredient in wheat of a fixed character, is phosphorus, and observes—"when it is considered how much of that material is drained from the soil year after year, and sold off the farm, it is not surprising that we hear farmers complain of 'old going land' and 'spent soil!'"

The most suitable manure for wheat, he believes to be bones, in connection with the droppings of sheep left while feeding on the land; and where this course of cultivation has been adopted, he says good farmers in all parts of the kingdom have come to the unanimous conclusion that no soil is too light to grow thriving crops of wheat, if only it be properly tilled. "In the bones, the phosphorus, which is so essential to the formation of the grain, is supplied, and the urine and dung of the sheep supply the other constituents necessary for perfecting the plant in straw and grain. Many examples of the successful application of bones to wheat, it is said, might be related; and the experiments of Sir Samuel Crompton are referred to, "who has on a light and naturally poor sand, obtained most magnificent crops of wheat."

Bones are prepared for use as manure either

by being crushed in mills designed for the purpose, or by being dissolved in sulphuric acid. The latter seems now to be considered, in England, the better course, and is being generally adopted. Prof. J. P. Norton, in a communication to the *Cultivator* for 1845, page 266, gives the following mode of preparing bones with acid: The bones are placed in a conical heap or a bed of ashes, and the acid slowly poured on. Twelve pounds of acid per bushel is the quantity applied; but previous to its use it is diluted with once or twice its bulk of water. The bones will absorb nearly the whole of the acid; the outside of the heap should then be turned inside and the whole will in a short time become soft and fit to mix with ashes for drilling or sowing.

They are sometimes applied in a liquid state, and are also used alone as top-dressing. The quantity applied per acre is from sixteen to twenty-five bushels.

The writer of the essay, of which we have been speaking above, has no confidence in the system of "dibbling and thin sowing," concerning which we have lately heard much; and though he thinks it certain that under the necessity of economy which at the present time exists, great efforts will be made to adopt it. He deems it equally certain that it will end in failure. He says—"We are in possession of a series of experiments which have been made, and the results brought to the test of the bushel and scale, which shows the dibbling system a perfect failure; and which at a future opportunity we shall give."

He is in favor of drilling, of which he thus speaks:

"The drill is the sheet-anchor of wheat sowing. The seed is deposited with the accuracy and regularity of clock-work; the quantity can be regulated to a fraction—a peck per acre; the rows are straight, parallel and regular; the depth can be adjusted to a trifle; and the whole apparatus adapted to the necessities, capabilities and circumstances of the soil and season, with the mere loosening of a screw, or turning of a handle." Drills, he says, are in use, which "are as perfect, both for mechanism and practical effect, as a chronometer or a steam engine." So complete is their execution, that in sowing a twenty-acre field, when the surface is favorable, "scarcely a variation of an inch from a straight line occurs in the whole piece."

We have, on former occasions, spoken of the advantages of this system of wheat culture; and have mentioned the example of Mr. Noble, of Massillon, Ohio, who practices drilling extensively, and with excellent results. Some of the finest wheat crops we have ever seen, were produced on his farm by this mode. He informs us that the longer he continues

this practice, the more he is in favor of it.—He has constructed a drill which operates well—doing the work with precision and despatch. We believe the system of drilling wheat is worthy of general adoption, and we hope to see it speedily introduced into our principal wheat districts.

As a protection against smut and vermin, the writer of the essay recommends arsenic. We have formerly used this substance as a preventive of smut, but cannot say that it was found any more effective than blue vitriol or sulphate of copper; either substance will answer the purpose well, if properly used.—But for protecting the seed against insects and vermin, we think it probable the arsenic would be preferable, though we cannot speak on this point from our own experience. The following is the mode for using the arsenic:

"Take to every bushel of corn [grain] one ounce of arsenic, dissolve it in one pint of water, adding half a pint of salt. Spread the corn on a level floor, and pour the liquor on the wheat, continually stirring it until the whole is wetted, or thoroughly damped. Then apply and mix quicklime until it is sufficiently dry to sow, and we will guaranty that not an ear of smut will be visible. The seed is also secure from crows and vermin; and the arsenic, so destructive to animal life, seems to have no effect of an injurious tendency on the seed wheat."

The average yield of wheat per acre, on a clover-ley under good management, is put down at 30 bushels, and the expense of cultivation is given as follows:

	£	s.	d.
Plowing, - -	- 0	6	0
Sowing, - -	- 0	3	0
Harrowing, - -	- 0	1	0
Rolling, - -	- 0	1	6
Seed, - -	- 0	18	0
Weeding, - -	- 0	4	0
Straw for harvesting and all expenses up to marketing.	£1 13	6	

This would give the cost per bushel 1s. 1½d. or 26 cents. The common opinion, we believe, is that wheat is produced much cheaper in this country than it can be in England.—This is at least questionable; at any rate we doubt whether any of our farmers can show that they have produced it at less expense than the above estimate shows. On the other hand, it is not improbable that with their improved mode of culture, and the greater average yield, the English farmers may have the advantage of the American on the score of cheapness; and we ought to regard this as an additional inducement for the adoption of a better system.—*Cultivator*.

Red-Top Seed.

Messrs. Editors:—Wishing to bring this grass into more general use among us, I have made the following statement in reference to its qualities and its value, and I find there are many in this part of the country that know nothing about it; and many that know but little about it have imbibed a prejudice against it, on the belief that it is hard to subdue when once it takes hold of the soil.

I speak from twenty years' experience.—Although it has done well with me on dry land, yet I find it more peculiarly adapted to wet or moist soils. Where it can be done, the most ready way for a quick return for the labor bestowed is to turn the prairie sod as level as possible at the common time of breaking. In the latter part of August or first of September, sow the seed liberally, say from one to two pecks to the acre. If the season proves favorable, you will have a good crop the next year. I prefer to have it mixed with timothy, as that will help the crop the first season; the red top will then take possession of the ground in after crops.

I have a meadow which I fenced and pastured close with my sheep and other stock for two years. After the first year's pasturing I sowed it partly in timothy and red top mixed, and part in orchard grass and timothy mixed. The ground was part prairie, and part covered with young timber, intermixed with a heavy coat of hazle; the hazle was mown the previous winter or during the spring and winter following, so that much of it was sown among the standing brush. The brush was gathered and burnt as we had leisure. The third year, I mowed the ground. (I harrowed all the open part that could be harrowed, when I sowed the seed.) I have now mowed the land for two years. Where the red top is sown, the hazle is completely subdued and it is well set in grass. On the prairie land I had a heavy crop of grass, (in the sloughs and moist parts) the dry parts also yielded a tolerable crop of hay. Where I sowed the orchard grass and timothy, I had but a slight crop last season, and much less this, and the wild grass and the hazle are taking possession of the ground; while the red top has nearly doubled from the first to the second mowing, the orchard and timothy grass has degenerated in the same proportion.

This fall I have sown the whole meadow in red top, which I expect by annual mowing will subdue the whole meadow; as that part is now completely subdued that was first sown in red top.

The best time to subdue brush is to mow in the old of the moon in July and August, when the sign is in the heart. Cut with a sharp scythe, as it is easier to the one that does the

work and leaves the pores of the wood more open, so that the sap will run more freely from the root, which tends much to exhaust it.

We here sow the red top in the sloughs that are in our fields, with no other preparation than previously burning off the wild grass.—After sowing, the grass is annually mowed, and it gradually takes possession of the soil to the entire exclusion of the tall weeds and coarse slough grass. In a few years it will produce a beautiful growth of red top, from which can be taken from two to three tons of hay to the acre, without any diminution in the product for many years. My sloughs, instead of being a nuisance, I consider to be the most profitable part of the field.

From my experience I consider the red top to be equally as valuable as timothy for stock of every description.

One particular advantage to the farmer in this grass, is the fact that it will keep green and retain all its virtues two weeks longer than timothy, which in that busy season of the year is of considerable importance.

In sowing on sloughs not previously broken up, I should harrow, which will much facilitate its taking root. Even the tramping of the team will help much in getting in the seed.

On dry lands I have never found any difficulty in getting rid of this grass. All that is wanted is to plow deep, and then do the after-work of the season so as not to disturb the under part of the sod. With our new improved plows, there will be found no difficulty, as they turn everything so completely under. With this plow, even in wet lands, where it is plowed under deep and the after culture is done without disturbing the sod, I have no hesitation in saying, even in this situation, that it can be subdued when the season is not too wet to cultivate the land. But the red top is the best and most profitable thing that can be raised on such land, and should not be disturbed except it should be found necessary to renew the meadow, which I have now found to be the case.

THE OLD FARMER.

—*Prairie Farmer.*

For the Michigan Farmer.

Marshes.

MR. HURLBUT:—

Noticing an inquiry in the last Mich. Farmer from Mr. Whitton of Hillsdale Co. respecting the cultivation of marshes, I feel inclined to give my opinion on the subject, gathered from experience and observation had during a residence in Michigan the last thirteen years. In this section of country but little has been done in cultivating marshes by plowing; but numerous tracts have been stocked down by sowing the seed on the natural surface after

draining, with good success. Some failures have occurred from seed sown the first season after draining; supposed by some to be in consequence of the heat caused by fermentation, which it is thought takes place during the heat of summer. Although this is strenuously urged by some, I am not yet prepared to sanction this opinion, but have rather attributed it to the heavy coat of moss covering the surface where such failures have occurred. But whatever may be the cause, the difficulty is generally over after the first season, and seldom if ever occurs, except on such marshes as are of entire peat formation, and are almost entirely useless in a state of nature, producing only a scanty crop of the poorest quality of wild grass completely matted over with moss. Others may be of a different opinion, but, for myself, I had rather risk stocking down without plowing, especially if I can have sheep to keep on the marsh the first season after seedling, for the following reasons, to wit: 1st. From what I have seen, it is the most difficult plowing our country affords, especially the first time. 2nd. If the season should either be too dry or too wet, a loss of seed would be likely to be the consequence; and lastly, seed will generally take well enough without.

Respectfully yours,

G. J. BARKER.

Manchester, Feb. 22nd, 1847.

For the Michigan Farmer.

Sheltering Sheep.

MR. HURLEUT:—

Being a strenuous advocate for housing sheep, I am interested with any thing appertaining to that subject. In the Feb. number of the Farmer, I read with attention a piece headed "a cheap and warm shelter for sheep," over the signature of "A farmer of Jackson county." I know by a little experience the truth of his remark, that the cost of erecting barns for sheep is attended with considerable expense, so much so that I have not been able to furnish them as fast as my sheep increase. Therefore any "simple expedient" that will answer the purpose will be very acceptable to wool growers in this country; and as I was contemplating the subject, what forcibly appeared to me would be an improvement on his plan, was to have the crotches 6 or 7 feet high instead of 3; for if it is a fact, as some insist, that sheep are about as subject to take cold as man, it appears necessary that after having slept so warm through the night, they should not be compelled to turn out in the open air on a severe cold morning to take their breakfast, or if moderate, what would be equally as bad, or worse, encounter a drenching rain, such as we have had the present winter. No one will dispute the bad effects of rain to sheep at al-

most or quite any season of the year, but more especially in cold weather. I therefore would have said shelter of sufficient height to be convenient to fodder them under in stormy or severe cold weather, for I cannot persuade myself but that sudden transitions from hot to cold are injurious to sheep, and had much rather they were exposed to a continual cold air if kept dry, than to be kept warm and occasionally wet, by either rain or snow.

Respectfully yours,

G. J. BARKER.

Manchester, Feb. 22nd, 1847.

Rotation of Crops.

A judicious rotation will, of course, have reference to the particular article of produce of the greatest value in each district;—as a general rule, in all wheat lands, this will be wheat.

Some years ago, on an agricultural tour in the interior, about fifty miles, I heard of a German, who had introduced an improved system of cultivation, then generally adopted in that region. On visiting this man, Jacob Sheimer, of Northampton county, Pa., I found him a plain, practical old farmer, who in about thirty-five years, on a farm of 100 acres, with two hands, had realized about four times its value of \$80 per acre, besides raising and educating a family.

His process was as follows—his great object being wheat—having originally divided his farm into eight fields, of about twelve and a half acres each:—

1st. Manure and lime; plough in May, June and August; harrow and seed one and three-quarter bushels of wheat to the acre, which put in with a plough.

2nd. Clover seed, sown on wheat in the spring, six quarts to the acre, and pasture after harvest.

3rd. Plaster the clover in the spring; one bushel to the acre; cut clover in June; plough down second crop, and seed again with wheat.

4th. Wheat—Same treatment as No. 2.

5th. Pasture early in the season. Plough in August, and sow wheat.

6th. Wheat again. 7th. Plough stubble, sow rye, one and a quarter bushels to the acre; sow clover in the spring on rye.

8th. Plough clover sod and plant corn, and next season recommence the system on the fallow ground.

By this system, it will be observed that there were always three fields in with wheat, one in with rye, one with corn, two with grass and one fallow. His crop averaged about 1,400 bushels of wheat, 600 bushels of corn, 300 bushels of rye, and his land, when I saw it, appeared in excellent condition.—*Longstrech's Address.*

MICHIGAN FARMER.

JACKSON, MARCH, 1847.

The last Number.

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
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THOSE IN ARREARS

for the present volume, will receive the next for an additional payment of only 37½ cents, \$1 paying for both volumes.

NOTICE.—After the 15th instant, subscribers in Jackson county, whose accounts are unsettled, can pay them at the Office of B. M. Sheldon, Esq., of this village, unless sooner called for by a collecting agent.

 The Office of the Farmer will be removed to Detroit on the 20th instant, after which all communications relative to the paper will be addressed to the publishers at that city.

THE PROVISION MARKET.—Although at present a temporary decline in flour has occurred in consequence of the large supply which had been forwarded, still the accounts of destitution and famine across the Atlantic have not diminished, but rather have taken a wider range, and assumed a more formidable aspect. In the British Parliament, the Queen's speech recommended in strong terms additional governmental measures of relief for the famishing in Ireland and Scotland. The Parliament was considering the propriety of an entire remission of corn duties, a relaxation of the navigation laws, and the employment of eight ships of the line till the next harvest in the importation of grain from America. A prominent member, Mr. Ricardo, estimated that before the next harvest, Great Britain would have to import

4,000,000 quarters of wheat, equal to 37,333,333 bushels. France, Holland, and Prussia had already opened their ports to the admission of bread-stuffs.

With such intelligence before them, farmers will judge for themselves whether, on the opening of navigation, the supply, especially the large quantities to go forward from the well filled store-houses and granaries of our western states, will be sufficient to glut the market.

THE HESSIAN FLY: *Its history, character, transformations, and habits.* By ASA FITCH, M. D.

This valuable essay, the first part of which we briefly noticed as it appeared in the American Quarterly Journal of Agriculture and Science, has now reached us entire in a beautiful pamphlet of sixty pages, for which the author will please accept our thanks. It is doubtless the most complete and thorough treatise on this interesting subject to the wheat grower, that has yet appeared, and probably the most important also as regards the remarks on the remedial measures suggested. The author appears to have collated, compared and digested with much care all the facts pertaining to the Hessian fly which had been previously accumulated, and to have added to them some original observations of his own. We shall make a brief abstract for the benefit of our readers.

Most accounts concur in stating that the eggs of the first generation are deposited between the latter end of August and the 20th of September, though some extend the time into October. The deposit is made between the little ridges in the upper surface of the blade, when the wheat is but a few inches high, in numbers varying from one to thirty. These hatch in about a week, and the worm crawls down the sheath of the leaf to its base, just below the surface of the ground, where it remains, subsisting upon the juices of the plant, without wounding it, but causing it to turn yellow and die. It is thought to take its nourishment by suction, after the manner of the leech. It is a small, white maggot, and attains its growth in about six weeks. It then changes to a flax seed like body, within which the worm becomes a pupa the following spring, and from this the fly is evolved in ten or twelve days. The fly closely resembles a mosquito in its appearance, but is a third smaller, and has no bill for sucking blood; it is black, the joints of its body being slightly marked with reddish. It appears early in May, lays its eggs for another generation and soon perishes. The worms from these eggs nestle at the lower joints of the stalks, weakening

them and causing them to bend and fall down from the weight of the head, so that towards harvest, an infested field looks as though cattle had passed through it.

It is a beneficent arrangement of Providence that a natural check has been provided to the multiplication of this pest of the wheat grower, in the enemies which prey upon them. Other insects have been created apparently for the very purpose of preventing the inordinate increase of these. There are at least four different species of the parasites. One, an exceedingly minute, four-winged fly, punctures the eggs after they have been laid upon the leaf, and deposits in each four or six of its own. The Hessian fly worm hatches, grows, and passes into its flaxseed state, with these internal foes feeding upon it: it now dies, and its destroyers in due time escape from the flaxseed shell. Three other minute, four-winged flies, or bees, as they would be called in common language, destroy the fly when in its flaxseed state. The most common of these by far is the *Ceraphron destructor*. Alighting upon the wheat stalks, instinct informs them precisely where one of these flaxseeds lies concealed.—They thereupon sting through the sheath of stalk, and into the body of the worm, placing an egg therein, which hatching to a maggot, lives upon and devours the worm. So efficient and inveterate are these various foes, that more than nine-tenths of all the Hessian fly larvæ that come into existence, are supposed to be destroyed by them. Any one can easily ascertain that these parasites are surprisingly abundant, and destroy immense numbers of the spring generation, by collecting the infested straw at harvest time and securely enclosing it to preserve all the insects that hatch from it. He will thus obtain parasites in abundance, and only occasionally a Hessian fly. On the other hand, numbers of the young plants taken up by Dr. Fitch in April, evolved nothing but Hessian flies. Hence he suspects that it is chiefly the second generation that is infested by parasites, and that the first is comparatively free from them.

Of remedies to be used by the farmer, the author enumerates and discusses no fewer than fifteen, some of which he discards as founded in error, while he entertains others as to a greater or less extent efficacious. We will give an abstract of these in our next number.

FIRST ANNUAL REPORT OF THE OHIO STATE BOARD OF AGRICULTURE.—Our neighbors of Ohio appear to be beginning to think that Agriculture is an interest of sufficient importance to deserve some attention from the State government. —

They have gone so far as to establish a State Board of Agriculture, but thought their treasury too empty to afford any legislative appropriation, so that the services of the Board are unrecompensed, and their expenses in assembling and during their sessions, are defrayed out of their own pockets. This demands some public spirit.

The Report gives a general view of the Agriculture of the State, followed by reports from many of the counties, communicated either by County Agricultural Societies, or by individuals to whom inquiries had been addressed. For a first report, and under such circumstances, it is highly creditable. The Board propose to the legislature to remove the impediments under which they labor from the utter lack of means, by creating a permanent fund from the following sources:

1. From fees for permits for public shows, which it is proposed to put at \$20 each.
2. All property that has escheated to the State.
3. One-half the docket fee of \$5, taxed in courts heretofore in favor of the successful attorney, to be retained by the clerk, and paid into the agricultural fund. From this source alone it is estimated that \$15,000 might be annually realized, and the Board intimate such confidence in the liberality of the legal profession, as to think they will submit, in aid of so good a cause, to the relinquishment of one-half their accustomed perquisite without squirming.

It is anticipated that a respectable fund would soon grow up from the three sources referred to, without imposing any tax, that would be felt by the community at large, or diverting the revenues of the State from any proper object.

The Editor of the Ohio Cultivator will accept our thanks for a copy of the Report.

MOWING MACHINE.—A mowing machine has been invented by Obed Hussey, of Baltimore, Md., which is said to cut the grass as even and as close to the ground as it can be cut with a scythe. It will cut from 15 to 20 acres per day, with one horse and one man to drive. The cut grass needs not to be spread, as it spreads itself in falling over the knife. It probably requires level and smooth fields. Manufactured by T. R. Hussey, Auburn, N. Y.

A PLANK ROAD has been constructed in Onondaga Co., N. Y., the past year, 12 miles in length. A plank floor 3 or 4 inches thick and 8 ft. wide, is laid on sills 4 inches square, imbedded in the earth. The entire cost of construction, including grading, gate-houses, bridges, &c., was about \$1,500 a mile.

Chapter of Scraps.

IMPROVEMENT IN PREPARING GRAIN FOR FLOURING.—A patent has been obtained Oct. 14, 1846, by J. W. Howlet and F. M. Walker, of Greensboro', N. C., for an improved process of toughening the hulls of wheat or other grain, by passing the same through a jet or current of steam immediately preparatory to grinding. The patentees say: "The utility of toughening the hulls of grain in some way previous to grinding, and also the difficulty of effecting this desideratum uniformly, is well known to practical millers.—When grain is ground in too dry a state, the hulls are so tender and brittle that a portion of them are pulverized and pass through the bolt with the flour; disfiguring its appearance and greatly deteriorating its merchantable value."

THE SILK BUSINESS.—In ten towns in Massachusetts and Connecticut, there were manufactured in the year 1845, 47,120 lbs. of silk. The town of Mansfield, Conn., produced 13,200 pounds.

WAGES IN ENGLAND.—In England, the average rate of agricultural wages for an able man, with a family, is nine shillings, or \$1.98 per week. From this is to be deducted cottage rent at 35 cents per week, leaving \$1.63 per week to provide himself with the necessities of life.

TO DESTROY LICE ON CATTLE.—Sprinkle them all over with salt—a week after, repeat the application. It is said to be an effectual remedy.

A DROP or two of honey well rubbed on the hands while wet, after washing with soap, prevents chapping, and removes the roughness of the skin—it is particularly pleasant for children's hands and faces in cold weather.

ONE pint bowl of common salt makes three quarts of brine strong enough to bear an egg, or float a potato,—this is a saturated solution.

PORK VS. COTTON.—The hog crop of the United States, the past year, was three times the worth of the cotton crop. The 'standing army' of swine consumes annually two hundred millions of bushels of corn.

TO TAKE WHITE SPOTS FROM VARNISHED FURNITURE.—A shovel of coals held over varnished furniture, will take out white spots. Care should be taken not to hold the coals near enough to scorch, and the place should be rubbed with flannel while warm.

THE BEST GUARDS AGAINST DROUGHT, are keeping the soil deep, rich, clean, and mellow on the surface.—Buell.

DETROIT APPLE.—The Horticulturist says: "The specimens sent us by Mr. Ernst (of Cincinnati,) under this name appear to us to correspond in every characteristic with the *Monstrous Bellefleur* of Cox. Mr. Ernst informs us that he should coincide in this opinion, but that Cox describes the growth of the wood as strong, while he finds it slender. It is undoubtedly an old apple, and a Bellefleur."

SULPHUR IN FOOD.—According to M. Dimas, of the Paris Academy of sciences, sulphur may travel through the air, from the sulphates which

contain it, in large bodies of water, to lands which require it for vegetation or for the production of the animals which live on the plants produced by these lands. It is worthy of remark, that yellow sulphur performs an important part in the production of all nitrogenized substances of plants and animals. They contain, on an average, a 1000th part of their entire weight.

TO PREVENT DOGS FROM KILLING SHEEP.—We find in an exchange paper a recommendation to put bells on one or two sheep in each flock as a protection against dogs. A sheep-killing dog is a sneaking creature, and when they start up the sheep, the bells make a noise and the dogs sneak off. If the sheep are within half a mile of the farmer's house, the bells will give an alarm.

Diseases of Sheep.

STRETCHES.—This disease very commonly occurs in flocks which are kept exclusively on hay, or other dry food, and is fatal very often, unless an early application of medicine follows the attack.

Symptoms.—The sheep will alternately lie down and rise at brief intervals, frequently stretching, and refuses every kind of food.—It is now generally admitted that it proceeds from *costiveness*, by being deprived wholly of green food. The disease is unknown in Great Britain, where succulent provender is so bountifully fed.

Treatment.—Two table-spoonfuls of castor oil, or one ounce of Epsom salts, will be effectual. A small quantity of hog's lard has also been used with success. A neighbor administers a large quid of tobacco; and he recently informed the writer that he had never lost a sheep by the stretches after administering this nauseous potion.

Preventive.—Give the flock green food once a week or oftener—such as apples, potatoes, or turnips. Pine or hemlock boughs are also excellent.

DIARRHŒA, OR SCOURS.—This being so common and fatal a disease with the junior portions of the flock, in our own country, requires an extended notice. The following are Mr. Youatt's remarks, and mode of treatment:

"If the affections of the external coats of the intestines do not frequently occur, inflammation of the inner coat or mucous membrane is the very pest of sheep. When it is confined principally to the mucous membrane of the small intestines, and is not attended by much fever, and considerable discharge of mucus, and occasionally of blood, it is *dysentery*.—These diseases are seldom perfectly separate, and diarrhœa is too apt to degenerate into dysentery. The diarrhœa of lambs is a dreadfully fatal disease. If they are incautiously exposed to the cold, or the mother's milk is not good, or if they are suckled by a foster-mother that had yeened too long before, a vi-

olent purging will suddenly come on, and destroy them in less than twenty-four hours.

When the lamb begins to crop the grass at his mother's side he is liable to occasional disturbance of the bowels; but as he gains strength, the danger attendant on the disease diminishes. At weaning time care must sometimes be taken of him. Let not, however, the former be in haste to stop every little looseness of the bowels. It is in these young animals the almost necessary accompaniment or consequence of every change of diet, and almost of situation; and it is frequently a sanative process; but if it continues longer than twenty-four hours—if it is attended with pain—if much mucus is discharged—if the appetite of the animal is failing him in the slightest degree, it will be necessary to attend to the case. Then use the following remedy: Take of prepared chalk an ounce, powdered catechu half an ounce, powdered ginger two drachms, and powdered opium half a drachm; mix them with half a pint peppermint water. The dose is from one to two table-spoonfuls morning and night.

The diarrhœa of lambs is, in a majority of cases, attributable to the carelessness or mismanagement of the farmer, either referrible to deficient or improper food, or the want of shelter at an early age; as the animal grows up he is better able to struggle with the disease.

Diarrhœa occasionally attacks the full-grown sheep, and is too often fatal, especially when it has degenerated into dysentery. It is very common in the spring, and particularly in the early part of the season, when the new grass begins rapidly to sprout. Here, still more decidedly than with the lamb, the sheep proprietor is urged not too suddenly to interfere with a natural or perhaps beneficial discharge; and after which the animal often rapidly gains condition. Four and twenty hours should pass before any decisive step is taken; but if the looseness then continues the sheep should be removed to shorter and drier pasture, and hay should be offered to them. If, after having tasted of the fresh grass of spring, they can be induced to touch it. If the looseness does not abate, then adopt the treatment recommended."

With the writer's flock, diarrhœa rarely occurs with lambs when suckling the ewes; it is at an after age, generally during their first winter, and early in the following spring, when they commence nipping the young grass.

The disease originates under the following circumstances:

First: Too sudden a change from dry to green food. Therefore, as has already been remarked in a previous part of this work,

when the foddering season is about to expire, the flock should not be allowed to go wholly to grass, but permitted to eat only a little each day for a week or more; then the sheep may be placed on their pastures permanently, with impunity.

Second: Salting freely too early in the spring, while the grass is young and flashy.

Third: When beginning to feed grain, giving it in too large quantities. It should be fed moderately at first, and the quantity gradually increased.

Fourth: Feeding unripe hay. This is not generally known as an inducing cause of scour; but the compiler *knows* it to be so from sad experience, and the fact has been repeatedly confirmed by the experience of farmers living in the vicinity of his residence. In this country, it is probably the most prominent cause of the disease.

Fifth: Exposure to sudden transitions of weather; shelters are therefore needed as a preventive.

Sixth: Eating of irritating weeds; the flock in this case cannot be removed too quickly to another field, and salted.

Diarrhœa can be easily arrested, by mixing a small quantity of pulverized alum in wheat bran, and fed for a day or two. If this should not succeed, there is a tendency to dysentery, and a purgative of castor oil (a table-spoonful) should be administered, accompanied with dry food, and little drink. The reader is also referred to Mr. Youatt's recipe, already stated. A decoction of hemlock bark, after boiling, is a powerful astringent, and has been used with success. — *American Shepherd.*

The Pea.

A leguminous plant like clover, it draws much of its aliment from the atmosphere;—and it is perhaps as sensibly affected by the same cheap manure, plaster. Its haulm or straw, if cut and cured greenish, and well taken care of, makes a good, rich fodder, relished by all kinds of stock. Peas are greedily eaten by all kinds of neat stock, swine and sheep, for which they form a healthy and highly nutritious food. For sheep, and particularly breeding ewes, there is probably no feed in the world equal to nicely cured pea haulm, with a portion of the seed left unthreshed. It gives them condition and vigor, and prepares them for a bountiful supply of rich milk for their young. — *Farmer's Library.*

TEST FOR COPPER IN FOOD OR CONFECTIONERY.—Pour over the substance to be tested a small quantity of liquid ammonia (hartshorn water,) and if copper be present it will speedily acquire a bluish tint.

For the Michigan Farmer.

The Potato Rot--The New Variety Remedy.

EDITOR OF THE MICHIGAN FARMER:—

Having seen it stated many times within a few years past, in agricultural and other papers, that the potato rot is caused by the old varieties having become degenerated or run out by too long cultivation, I was induced to try the experiment of originating new ones from seed obtained from potato balls. The result has been, that out of ten new varieties obtained in this way within two years past, I have not a tuber left, all, without exception, having rotted during the past season. I have known several others who have tried the same experiment, and found the new kinds no better to withstand the rot, than the old ones.

A. R.

Jackson, February 26th, 1847.

For the Michigan Farmer.

Remarks on Hedges.

MR. HURLBUT:—

In the last No. of the Michigan Farmer, I have been looking over a piece, headed, "Remarks on Hedges," by Wm. R. Prince, of Flushing, Long Island, from which I must beg leave to differ in some points.

In the first place, he says the Hawthorn is generally used for hedges in England: but I say there are many other plants used for that purpose equally as much as the Thorn: such as Beech, Hornbeam, Hazel, Ash, Oak, &c., of the deciduous kinds; the Holly, Yew, Laurel, Box, Furze, Irish Ivy, &c., of the evergreen kinds; and Sweet Briar, Privet, Pyracanthus, Pyrus Japonica, &c., sub-evergreens. The best of all, for farming purposes, as a guard against cattle, is Buck and Hawthorn alternately, one foot apart, on the top of a bank supported by a stone-wall four and a half feet high: the next is Hornbeam and Thorn in the same way, Thorn alone, Crab alone, or mixed with any of the above, and Thorn mixed with any of the above, the Locust tree mixed with any of the aforesaid; and the very best round about a house where not so much exposed to cattle and sheep, or for divisions in a nursery or garden, is made of the common English Holly. Next comes Yew, Box, Laurel, Privet, &c. &c., either alone or mixed with Thorn. These are the plants generally used in England.

2nd. In France he says they use Privet generally: but I have been in a great many parts of France, and have seen almost the same kinds of plants used as in England:—and in some parts, especially in the grape growing districts, they have no hedges at all, but stone walls laid dry, the same as I have seen in this country.

A great many of the plants named by Mr. Prince would not be of any use to a farmer in these parts, as they would not be proof against cattle, in many instances; and in others, they are subject to grow naked at bottom, and therefore forming a very poor fence: and others are apt to spawn, or throw up suckers on each side the hedge, for a considerable distance.

The last thing I shall notice is, that he calls the *Euonymus*, the Strawberry tree. Now I have been informed by Donn, Sweet, Loudon,

Lindley, De Candolle, &c. &c., that the scientific name of Strawberry tree is *Arbutus*, and the English name of *Euonymus*, Spindle tree; so that I have been wrongly informed, or he is under a mistake. But suffice it to say, we have plenty of plants here to form good hedges for all farming purposes. Here is the Beech, Hornbeam, Prickley Ash, Thorns in varieties, Crab Apple, Wild Plum, Choke Cherry, Ironwood, &c. &c. If only our farming produce would fetch a better price, so as to enable us to hire a little more help, and devote a little more time to improvement, then I would soon show you some living specimens of Thorn hedges, &c.:—but, for the present, I will just give you a sketch of the way we used to make them in England.

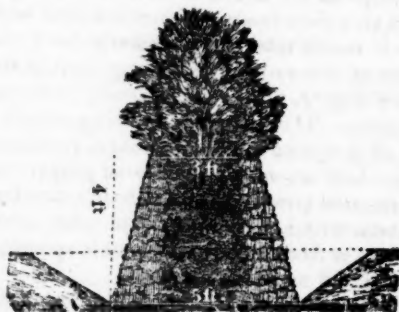


Figure 1, is a two-sided wall, built of any kind of stone picked from the fields, the middle of which is filled in with earth, and the plants set after it is finished. It is best adapted for dividing fields.

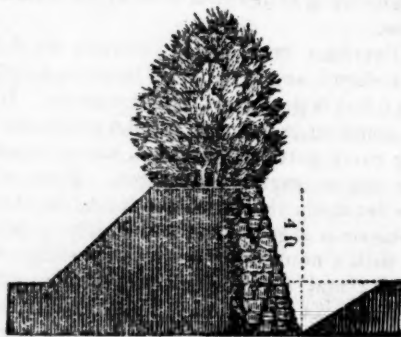


Figure 2, is a one-sided wall, the plants set as before, and is best for roadsides.

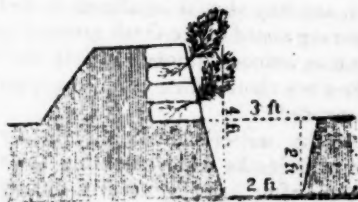


Figure 3. This kind of hedge is used where there are no stone, and the face of the bank is formed with the turf or sod which is cut from the top of the ditch. After the first layer of turfs is laid for some three or four rods, a row of plants is laid along on the top of it, with their tops out towards the ditch; then two other layers of turfs, and afterwards another row of plants in the same

way as the first, which are covered with another row of turfs, thus completing the height of the bank. The earth from the bottom of the ditch is thrown over to give the face of the bank stability, and the work is done. In the second spring after planting, the plants are cut off close to the earth, and quickly sprout out thick and strong, soon forming a good fence if kept clear of weeds.

For wet prairie land or marshes, pieces of Willows, Poplar, Aspen, and Alder, about the size of your thumb and three feet long, will grow if stuck in, and will soon make roots and a fence; and for dry land, any of the aforesaid plants will do.

If you think this worthy a place in the Michigan Farmer, you are quite at liberty to use it.

JAMES NASH.

Hanover, Jackson Co., Jan. 26th, 1847.

THE INFLUENCE OF HORTICULTURE UPON HUMAN CHARACTER.—That the habitual association with interesting plants and flowers exerts a salutary influence on the human character, is a truth universally felt and understood. No one ever dreams of any possibility of mistake, in estimating the disposition of those who delight in gardens, rural walks, and arbors, and the culture of elegant shade trees and shrubbery. Who ever anticipated boorish rudeness, or met with incivility, among the enthusiastic votaries of Flora? Was it ever known that a rural residence, tastefully planned and appropriately adorned with floral beauties, was not the abode of refinement and intelligence? Even the scanty display of blossoms in a window, or of the careful training of a honey-suckle round a cottage door, is an unmistakable evidence of gentle spirits and an improved humanity within. There may, possibly, be natures so gross, as to be incapable of perceiving the beauties of the vegetable creation—and others inaccessible to the influence of genuine taste—as it is said there are persons insensible to the charms of the sweetest music. But I can only imagine the existence of such unfinished specimens of our kind, as the rare exceptions which logicians say are the strongest proofs of the general rule. They must, indeed, be the veriest clods that ever fell untempered from "auld Nature's prentice han." Shakspeare, as you know, tells us—

"The man that hath no music in himself,
Nor is not mov'd with concord of sweet sounds,
Is fit for treasons, stratagems, and spoils."

—Dr. Wm. Darlington.

Alderney Cows.

Some gentlemen have not thought the Alderney cow handsome; but in truth, she is the *handsomest of cows for the dairy*, although she may not fill the eye like a thorough-bred Durham, in good condition, so much esteemed by every experienced dairy-man; yet there are thousands of families who want one or two cows, rich in milk and butter, mild, gentle and intelligent, on excellent terms with the milk-maid, and the Alderney, of all others, is the cow. She is well adapted for the lady of a snug rural mansion, and all dairy-men would

find it to their interest to keep two pure Alderneys to every twelve cows, the advantages of which are well understood in some parts of Scotland, and perhaps a dairy of twenty well-chosen animals of this breed would compete with any twenty cows in the United States, when butter of superior quality brings a good price. In short, the finest specimen of an Alderney is a true emblem of a milch cow, and any person keeping this breed merely for the dairy, who once gets one, feeds and treats her properly, will never be without one.

A good Alderney cow in Jersey, is expected to yield 7 lbs. of butter a week, and many have been known to yield double that quantity for a short period. Some give from 16 to 18 quarts of milk per day, during the months of May and June; and I was told of numerous instances of cows which yielded from 10 to 14 lbs. butter each, in a week. Major Barns, the Governor, informed me that he had a cow which gave 25 quarts of milk a day; but ordinary cows did not average more than 10 quarts a day, yielding 7 lbs. of butter each, in a week. It was stated, that, in summer, 9 or 10 quarts of milk would produce a pound of butter, and, in winter, when the cows are parsnip-fed, the same quantity of butter may be obtained from 7 quarts. The general average yield of each cow, old and young, is rather more than 365 lbs. of butter in a year, or about 8 quarts of milk per day.

The cows there, are universally tethered, and are moved, watered, and milked three times a day. They are fed principally on lucerne or clover, but the quality of their butter is never considered so good when thus fed, as when they range on a natural pasture.

The milk, when strained, stands at about 10 inches deep in the vessel, till the cream has all risen, which usually occupies three days in summer; and in winter, in order to hasten its rising, the vessels are covered and placed on the hearth at bed-time. Consequently, skimming is never performed but once, and then not before the milk has become coagulated or turned sour. In the operation of skimming, the cream is first detached from the edge of the vessel all round, and then is raised up together, as much as possible, and by inclining the whole mass over the vessel intended to receive the cream, the latter will sometimes slip off at once from the coagulated milk. At the bottom of the vessel there is a small hole stopped with a peg, which is occasionally withdrawn, in order to drain off the serous or watery portion of the milk, and thereby separate it from the cream.—*Amer. Agriculturist.*

Starch becomes sugar by boiling 48 hours in 100 parts of water and 1 part of sulphuric acid.

Means of Prognosticating the Weather.

By means of the barometer, we are enabled to regain, in some degree at least, that foreknowledge of weather which the ancients did possess. Chaptal considers that the value of the barometer, as an indicator of the weather, is greater than the human knowledge of the most experienced countryman and indeed of all other means put together.

The rising of the mercury presages in general, fair weather; and its falling, foul weather, as rain and snow, high winds and storms.

The sudden falling of the mercury foretells thunder, in very hot weather, especially if the wind is south. The rising in winter indicates frost; and in frosty weather, if the mercury falls three or four divisions, there will follow a thaw; but if in a continued frost, snow may be expected.

When foul weather happens soon after the falling of the mercury, it will not be of long duration; nor are we to expect a continuance of fair weather, when it soon succeeds the rising of the quicksilver. If, in foul weather, the mercury rises considerably, and continues to rise for three or four days before the foul weather is over, a continuance of fair weather may be expected to follow.

In fair weather, when the mercury falls much, and low, and continues falling two or three days before rain comes, much wet must be expected, and probably high winds.

The unsettled motion of the mercury indicates changeable weather.

Towards the end of March, or more generally in the beginning of April, the barometer sinks very low in bad weather, after which it seldom falls lower than 29 degrees 5 minutes, till the latter end of September or October, when the quicksilver falls again low with a stormy wind, for then the winter constitution of the air takes place. From October to April, the great falls of the barometer are from 29 degrees 5 minutes, to 28 degrees 5 minutes, and sometimes lower; whereas, during the summer constitution of the air, the quicksilver seldom falls lower than 29 degrees 5 minutes. It therefore follows that the fall of one-tenth of an inch during the summer, is as sure an indication of rain as a fall of between two and three-tenths is in the winter.

Oil of vitriol is found to grow lighter or heavier in proportion to the less or greater quantity of moisture it imbibes from the air. The attraction is so great that it has been known to change its weight from three drachms to nine.

If a line be made of good well-dried whipcord, and a plummet be fixed to the end of it, and the whole be hung against a wainscot, and a line be drawn under it, exactly where

the plummet reaches, in very moderate weather, it will be found to rise above such line, in foul weather and to sink below it, when the weather is likely to become fair.

A farmer who will accustom himself to observe the rising and setting sun, throughout the year, may be able to make a very accurate estimate of the weather. If the sun set clear, and no clouds intervene, when disappearing below the horizon, the succeeding day will generally be fine; and, on the contrary, if the sun set cloudy or is intercepted from the view by clouds at the moment of disappearing below the horizon, rain will generally fall within the succeeding twenty-four hours. Winds and storms will be indicated by the appearance of the atmosphere before they occur. In fact Providence has afforded many signs whereby the attentive and industrious farmer may be in a great degree guarded against any sudden changes in the weather, which would be injurious to him, and in observing constantly the rising and setting sun, he is amply repaid by the opportunity it gives him of seeing the most glorious picture Nature offers to our view. If some seasons are less propitious to us than others, from long continued drought or moisture, we should rejoice and be thankful that they are not of frequent recurrence, and are generally occasioned by natural causes.—*Naturalist*.

New York Farmers' Club.

CISTERS IN BARN-YARDS.—Dr. Underhill remarked that he had seen barn yards so placed on the side of hills that most of the rich liquid manures contained in them drained off to the already rich land at the bottom of the hill, and sometimes into the streams of the valleys, thus carrying away the chief fertilizing salts in a state of solution. He recommended that a water-tight cistern be formed of clay, masonry, or planks, in the lowest part of the yard, into which all the liquid part of the manure may readily be conducted. Near this cistern he would make a heap, in layers, of alluvial soil and all vegetable and animal matter at command, such as road-scrappings, turf-mould, leaves of the forest, the refuse of old wood piles, straw, refuse hay, potatoe stalks, weeds and rubbish of all kinds from the garden, the refuse vegetables from the kitchen, the entrails and bones of fish, and the fragments of all dead animals. Between these layers he would apply sprinklings of pot-ashes, soda, shell-lime, charcoal, gypsum, soot, &c.; and then, with a crow-bar, he would make numerous holes quite to the bottom of the heap, and pour in at times the liquid manure from the cistern. (a) In thirty days, he said, he had made in this way 500 loads of manure good for all kinds of crops.

Dr. H. A. Field stated that he had been busily engaged for four or five years in restoring his farm to fertility by drawing out muck in summer or autumn, and forming alternate layers of it in his barn-yard, about a foot thick, with layers of animal manure three or four inches thick, scattering between each a sprinkling of un-sacked lime, and applying this compost the following spring and summer to his land and crops. He recommended that a layer of plaster, charcoal, or peat, should be put on the top of the compost heap, in order to prevent the escape of the ammonia and other gases evolved in the decomposition of the muck and manure, which will be greatly accelerated by the lime. He said that he was aware that some loss would follow from the use of quick lime in connection with putrescent manures; but he thought the precaution he had suggested, if properly observed, would fix most of the gases in the upper strata of the heap, and the little that would be lost would be more than compensated by the rapidity and perfect manner in which the compost is made.

(a) It is obvious that by the mode of making a compost as practiced by Dr. Underhill, a considerable portion of the most valuable part of the manure will be lost by the escape of the ammonia caused by the action of the lime on the animal matter contained in the heap. His plan in every other respect is excellent, and could readily be remedied by sprinkling over the pile a layer of plaster, pulverized charcoal, dried peat, or rich mould.

Caps for Hay.

Mr. HOLMES:—It was an old adage "in peace prepare for war;" but I say, in winter prepare for summer, so I proceed. A year ago last summer I used hay caps, that is, pieces of cloth about five feet square, with a stick some eighteen inches long fastened to each corner, and spread one over every cock of hay, and the sticks inserted in the hay, which prevented the wind from blowing them off. This I did every night, and did not allow even the dew to blacken my hay. When the weather looked bad I put up my hay, sometimes when it was hardly wilted, and had it stand at one time, seven or eight days with almost incessant foul weather, and when I opened it, the hay was completely cured to the very top.—All that was injured was a little near the ground; and this so little, that the hay, in winter, was pronounced by good judges, first rate. All my neighbors' hay that was out was literally spoiled, for none wore caps. I have no doubt but in that single storm fifty tons of hay were spoiled in the town of Sangerville, which would have commanded eight dollars per ton. Yes, four hundred dollars in

the little town of Sangerville! Now, how many caps would that have purchased? Let us see. Thirty inch cotton cloth, which is sufficient, at seven cents per yard, would cost, say twenty-four cents, (three yards and a foot would make a cap) so that four hundred dollars would procure cloth for sixteen hundred and sixty six, allowing almost a cent as a fraction on each cap. Now fifteen caps of that size are sufficient to protect a ton of hay, so that sixteen hundred and sixty-six caps would protect one hundred and eleven tons of hay. Yes, the bare loss, above mentioned, would have procured caps enough to have secured eight hundred and eighty-eight dollars' worth of hay. Perhaps you will say I did wrong in reckoning the total loss of the hay; but several told me that the time spent in good weather, in drying and securing the damaged hay, was more than it was worth: it put them back in making their other, which we all know, ripens fast after a long storm, so that the actual damage to the latter hay, was more than the damaged hay was worth. My hay is so free from dust that a person afflicted with the asthma would hardly suspect the presence of dust in handling it. I swapped horses last winter, and took a horse that was supposed to be rather used up with the heaves; put him on my clean hay and he soon began to amend, and although I have kept him to hay as much as he would eat, he is as free from any appearance of heaves as he ever was, and stands fast driving, with as little puffing, as well as any horse that I ever drove. I am full in the belief, with some of the English writers, that bad hay is generally the cause of heaves in horses. — *Maine Farmer.*

Sangerville, Jan., 1847.

Culture and Uses of the Carrot.

We would thus seasonably call the attention of farmers to the advantages of the carrot crop. Whether the potato will continue to be affected with the malady which has attacked it for a few years past, is more than any one can tell. But it is best, in the language of the homely proverb, "to provide for the worst," though we hope for the best; and on soils which are sufficiently friable, we should decidedly prefer the carrot, to grow as a substitute for the potato in feeding animals, to any other vegetable. It is true the carrot has not been altogether exempt from the blight and tendency to premature decay with which several species of plants have been lately attacked; but so far as our observation has gone, the white or Belgian carrot is the only variety which has suffered to such an extent as to occasion much loss. This kind has been supposed to yield more than the orange, and other kinds, with less labor in cultivation, and we

think this is the fact, where the crop remains perfectly healthy; but the white is acknowledged to be less nutritive than the others; so that with the liability to disease, and the inferior quality of the white, we should unhesitatingly recommend the orange variety.

Carrots are known to be excellent food for milch cows, and also for horses. We have formerly been in the habit of using them for the former purpose, and decidedly prefer them for making rich milk and high colored and well flavored butter, to any other food we ever used in the winter season. For horses, we know the opinion of those who have used them is highly favorable. Mr. Risley, of Chataquo county, raises annually great quantities of carrots, and has been the most successful competitor for premiums on this crop, of any man in the state. He has, in several instances, produced more than 1,000 bushels to the acre. We are informed that he feeds them largely to his horses. We have been lately told by a man who has been sometime in his employ, that the horses fed on carrots are more healthy and active than when fed with anything else. In his own language, the carrots will "make an old horse appear like a colt." He stated that they usually gave from a peck to a half a bushel of carrots to each horse daily, with about half the quantity of grain which is given where no carrots are allowed. Horses which have been kept on grain in the ordinary way, when put on their allowance of carrots, it is said, very quickly improve in spirit, and in the appearance of their coats; and if the labor they are required to perform is not very hard, it is preferred to give them only the allowance of carrots, with but little grain.

HOW TO MAKE HOMMONY.—Wash a pint of grits (particles of flint-corn ground to one-fourth the size of a grain of mustard, with the finer parts of the flour separated by a sieve) in two or three waters, taking care each time to let them settle. When you pour off the water the grits must be well rubbed with the hands in order to separate them from the finer particles of flour. Then put them into a saucepan with a pint of water slightly salted, and let them boil slowly for nearly half an hour, occasionally stirring the mixture as soon as it begins to boil.

EXCELLENT HOMMONY BREAD.—Break 2 eggs into a bowl and beat them from five to ten minutes. Add by continually stirring, a salt-spoon of table salt, 4 or 5 tablespoonfuls of hot hommony reduced nearly to the consistency of thick gruel with hot milk, 1 large spoonful of butter, and a pint of scalded Indian meal squeezed dry. Make up the mixture into small loaves or round cakes 1½ inches thick, and bake in a brisk oven.

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Ypsilanti January 1st, 1847.

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